aws startups

Cloud-to-AWS migration guide for startups

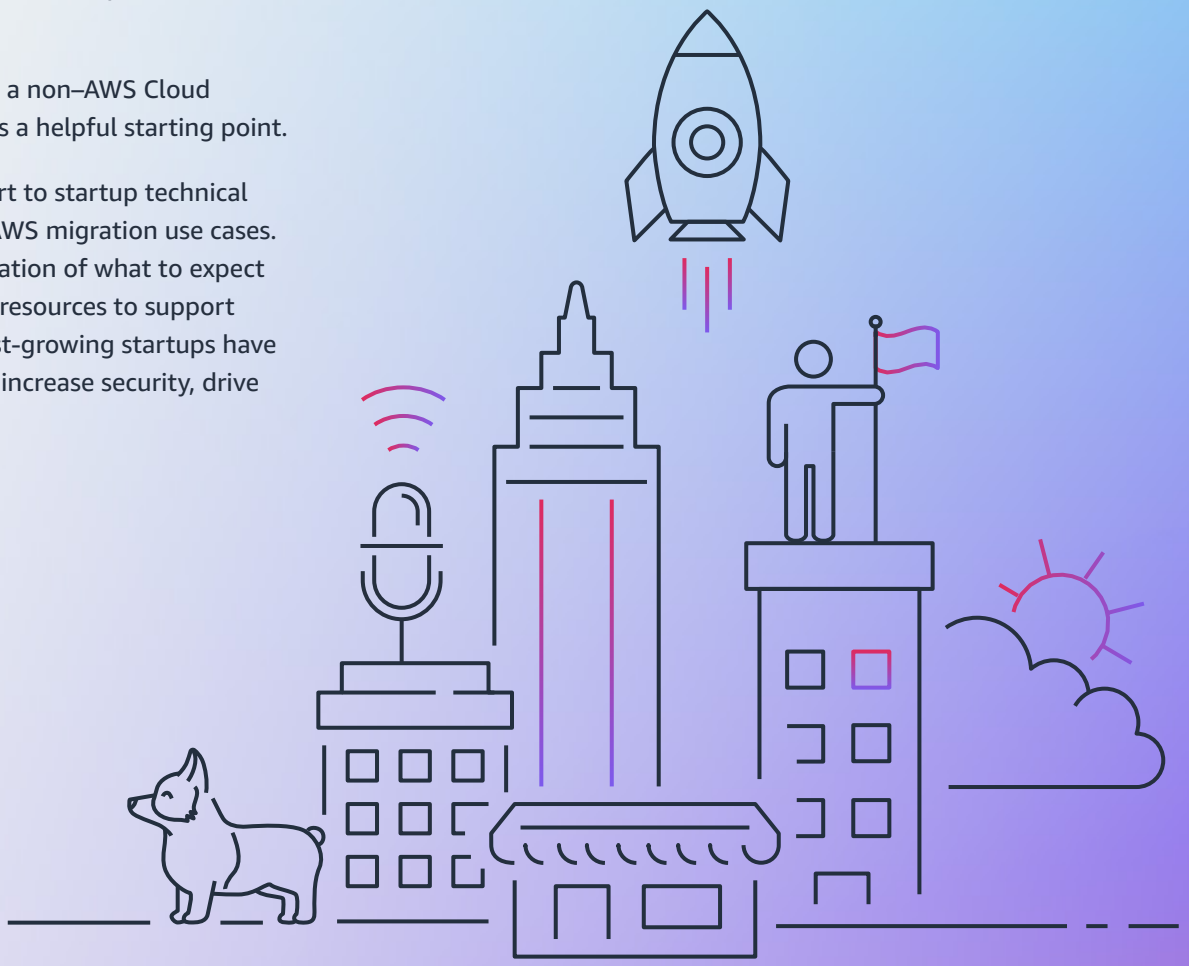
Why leading startups move their workloads to AWS

Overview

Not all startups begin their cloud journey with Amazon Web Services (AWS). Some businesses develop a minimum viable product (MVP) on one of the platform-as-a-service (PaaS) providers that offer compelling benefits, including low friction and infrastructure simplification. Other startups may amass a landscape of varied purpose-built workloads across multiple cloud providers.

If you're exploring or planning on migrating workloads from a non–AWS Cloud environment to AWS, a strategic considerations framework is a helpful starting point.

This eBook is intended to provide actionable decision support to startup technical leaders and their teams—with a specific focus on cloud-to-AWS migration use cases. You will find a top-considerations framework, a clear explanation of what to expect during a cloud-to-AWS migration, and a set of curated AWS resources to support you at every step. You will also learn why a diverse set of fast-growing startups have migrated their workloads to the AWS Cloud to reduce costs, increase security, drive agility, and innovate rapidly.



A leadership perspective

Familiarity and avoidance of friction are common reasons why startups initially build on a first development platform. Other factors include attractive entry pricing, functional advantage, and founder preference or brand bias. As your startup's products and teams grow, so does its cloud landscape. On rare occasions, startups may run IT operations in a multi-cloud environment, but this is typically the result of leadership turnover or acquisition activity. In other cases, core startup applications are developed and run on premises or in collocated environments—due to a preference of engineering teams for security or other IP-related reasons.

At AWS, we've seen that cloud-native startups achieve the best experience, performance, and cost outcomes when they select a single cloud provider. The multi-cloud approach, while workable in concept, typically generates undesirable growth in overhead (person-hours, cloud expense, and technical debt) as a company operates.

Multi-cloud customers often must utilize solutions from multiple providers to provision, manage, and govern IT resources, monitor the health of their applications, and collect and analyze data stored in different locations. To help startups overcome these challenges, AWS has extended its services over the past several years to help these businesses create, manage, and govern infrastructure and applications hosted in hybrid and multi-cloud environments.

VALUE PROPOSITION

Why migrate to AWS?

As the leading cloud provider to startups, AWS and the **AWS Partner Network** deliver deep technical expertise in migration and multi-cloud consolidation, along with the capabilities of more than 200 fully featured services. That helps explain why 83 percent of the 1,000 startup unicorns worldwide[1]—and over 90 percent of the Cloud 100[2]—run on AWS.

Cloud-native startups choose AWS for a variety of reasons. However, across thousands of recent cloud-to-AWS migrations, customers consistently cite these four unique and compelling advantages for migrating cloud applications and workloads to AWS:

1. **Broadest reach:** AWS enables startups with broad geographic and strategic reach and support through AWS Marketplace APN Global Startup and co-marketing programs. You can increase your total addressable market (TAM) to millions of customers, including startups, enterprises, and public sector organizations, whose data is hosted with AWS.
2. **Comprehensive and performant infrastructure:** AWS offers startups significantly more services and better performance than any other cloud provider. Your startup can access industry-leading functionality, performance, purpose-built silicon, and as-a-service billing without upfront capital investments in R&D and infrastructure.
3. **Migration experience and support programs:** AWS offers strategic and technical support to startups that have workloads hosted with other cloud providers or in on-premises infrastructure via programs that deliver total cost of ownership (TCO) results. With the broadest experience and community of partners and certified individuals, AWS helps startup customers migrate and meet goals faster—via a network of more than 400,000 certified individuals and 100,000 partners globally.
4. **Security and compliance support:** Startups migrate with AWS to benefit from the same cloud security posture as large organizations that deliver mission-critical banking, public health, and safety services. AWS provides direct support and tools that assist in meeting requirements for 98 security standards and compliance certifications globally, including PCI DSS, HIPAA/HITECH, FedRAMP, GDPR, FIPS 140-2, and NIST 800-171.

For companies considering a cloud-to-AWS (and on-premises-to-AWS) migration or multi-cloud consolidation, AWS solutions architects (SAs) and technical professionals offer the following expertise to guide and inform the first steps and phases of your project.

[1] AWS re:Invent 2022 Keynote
[2] AWS re:Invent 2022 Keynote

A planning considerations framework

Successful cloud migrations don't happen without a plan. AWS recommends a stepwise consideration framework comprising three core milestones to help startups stay on course:

1. **Inventory your cloud workloads and data**
2. **Identify the project team and roles**
3. **Leverage AWS migration support programs**

Migration planning is not a task that must (or should) be done in isolation. Your AWS account (and AWS Partner account) teams have the knowledge and experience needed to simplify and accelerate your migration journey. Make sure to schedule plenty of in-depth conversations regarding these areas with your AWS account team and SA. Refer to the Resources section of this eBook for information on how to contact your teams.

WHAT ARE YOU MIGRATING?

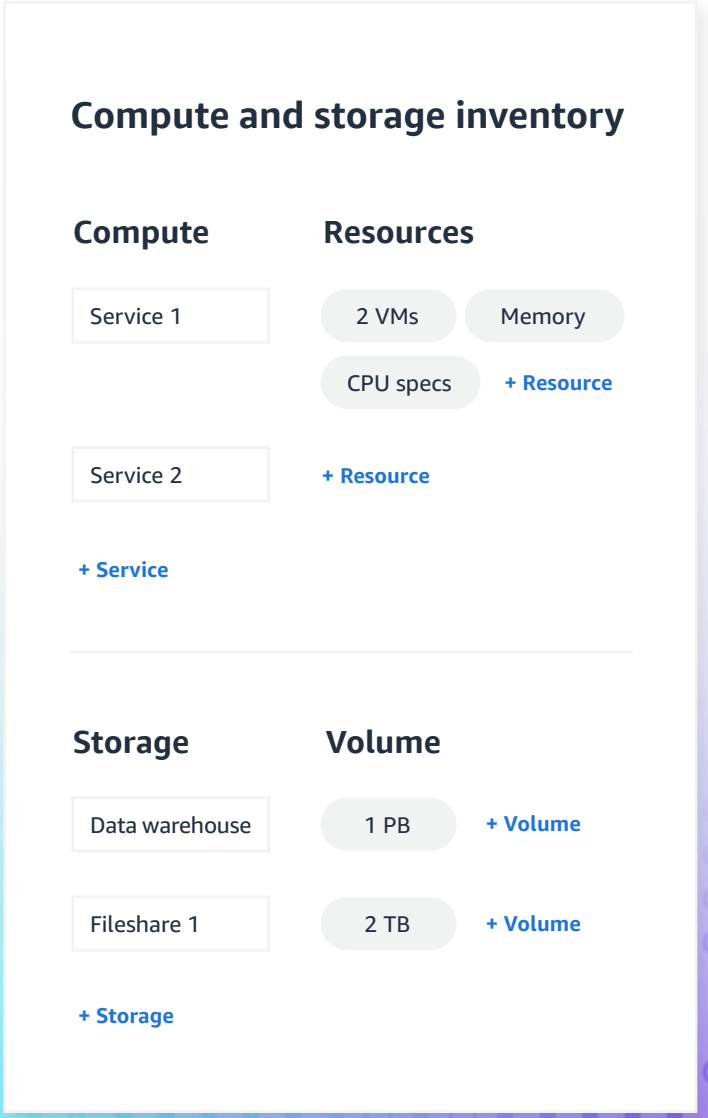
1. Inventory your cloud workloads and data

As you plan your cloud migration and operation, make sure your decisions are data driven. You will want to obtain hard figures for your current and projected cloud costs with incumbent providers, projected AWS costs, and migration project options.

During this assessment phase, your primary objective should be to quickly aggregate data to best inform your business case. Taking a complete inventory of your existing cloud compute and data storage workloads remains the most logical starting point. You can contact your AWS account team to discuss how to discover, document, and map all your existing applications.

If you are collecting your own data, remember that the output should include a list of services, where they're deployed (geographically), configuration, utilization metering and measurement, and current costs. Your project team will use this mapping data to build a high-level architecture and, ultimately, support your migration business case.

Have additional on-premises or hybrid cloud workloads in scope for cloud migration? See the Resources section of this document for links to AWS migration support and pricing tools.



WHO'S IT GOING TO TAKE?

2. Identify the project team and roles

The ability to move rapidly and pivot quickly is a startup's inherent advantage over larger competitors. Cloud-to-AWS migration may enable brand and line extensions, which strategically expand reach. Your engineering teams are busy developing and maintaining products to delight your customers. Developer involvement in a cloud-to-AWS migration or consolidation may be required and inevitable, but the less that occurs, the better aligned your resources will be. Three AWS capabilities can play a pivotal role in advancing migration timelines and a positive ROI:

AWS SAs design and deliver solutions to complex customer business problems on AWS. As trusted technical advisors, SAs understand business context, convey best practices, and provide prescriptive guidance.

AWS Consulting Partners are experienced in migrating cloud-native workloads to AWS and can help make your migration or consolidation a success. These Partners, including Partner SAs, ensure alignment of technical and business objectives across phases. AWS Consulting Partners may also play a key role in advising you on your startup's eligibility for migration funding support. (See the Resources section of this eBook for insights on connecting with any of the providers from the AWS Partner Network.)

AWS Support provides hands-on help with troubleshooting issues in your infrastructure, fast-growing service quotas, and training your teams on issues of cloud implementation. If you're running a mission-critical workload on AWS, you will want to utilize **AWS Business Support** to help with implementation and troubleshooting. If you're growing your business and actively scaling, it may be prudent to consider **AWS Enterprise Support.**

HOW WILL YOU SAVE?

3. Leverage AWS migration support programs

AWS is dedicated to helping startups efficiently migrate application and data workloads from non-AWS platforms to the AWS Cloud. In addition to technical guidance, we offer migration incentive programs to customers that meet certain eligibility requirements. Delivering flexible benefit options that contribute and accrue to reduce TCO, these incentives include everything from partner funding to credits for service and support.

AWS migration support program incentives help offset the duplicate costs customarily incurred in enabling two platforms during a migration. The program can cover partner project costs and provide billing and support credits. Your AWS account team or AWS Consulting Partner can review eligibility and help to determine which incentive program is right for you.

The process demystified

This section demystifies the migration process by outlining a set of first-call discovery questions and demonstrating how they feed into the migration project sequence.

Once engaged, your AWS account team or AWS Consulting Partner will coordinate a discovery session between you (and your internal stakeholders) and our SAs. Want to maximize the efficiency of your first call session? Answer this set of 10 core questions:

1. **Do you have a full inventory of your compute and storage volumes?**
2. **Which existing applications and cloud services are being migrated? (List and describe.)**
3. **What are the main business drivers for migrating these workloads?**
4. **What is the target timeline for this migration?**
5. **What is your current downtime and disaster recovery (DR) strategy?**
6. **How many people are managing the current environment?**
7. **Do you plan to refactor or re-platform your applications?**
8. **Do you plan to migrate ongoing projects for application modernization?**
9. **Do you have an architecture diagram?**
10. **List and explain the resource dependencies (specifically, key vault/ microservices).**

Typical project steps for startup cloud migration

Here's a typical migration project roadmap and along with some of the primary components to consider when moving workloads to the AWS Cloud.

Cloud-to-AWS migration process

Assess

1. Discovery of source assets
2. Compute and storage inventory
3. Utilization and invoice analysis

Mobilize

Data collection and deep discovery tools

Migrate and Modernize

Smaller scope:
Self-service tools

Larger scope:
AWS Partner services

CUSTOMER STORIES

ENPICOM triples performance and scalability by migrating to AWS

The challenge:

ENPICOM helps develop new vaccines, leveraging the company's IGX Platform, which provides a solution for the analysis of repertoire sequencing data. Its process involves managing large amounts of data and gaining insights from samples that typically generate millions of DNA sequences. A cost-efficient solution for computing power was needed to allow for high-performance processing to speed its analysis and enable secure data management.

AWS solution:

Migrating the IGX Platform to AWS was quick and seamless, taking just six weeks from the initial call to the final cutover and required only a small team at ENPICOM for management. During the migration, development work continued as normal, with just a few hours of downtime. The IGX Platform now runs on **Amazon Elastic Compute Cloud** (Amazon EC2) for secure and resizable compute capacity. ENPICOM found the support and documentation provided by AWS to be invaluable.

Read the full story ›

aws startups

ENPICOM
DECODING THE IMMUNE SYSTEM

"From the first moment we reached out to AWS, we were surrounded by an incredibly competent team of people…they wanted to make the migration successful and help us to grow our business after that."

Vadim Galaktionov, Head of Software Development, ENPICOM

Numerix cloud migration accelerates HPC analytics by 180x

The challenge:

Numerix, a fintech company, provides its customers with insight into thousands of possible market scenarios to avoid the negative impacts of large market swings. The process creates complexity and consumes costly and unwieldy computing resources. As its huge client portfolios swelled in size, it needed to scale its high performance computing (HPC) solution.

AWS solution:

To avoid these costs and increase efficiency, the Numerix team migrated its HPC analytics solution to AWS and used **AWS Batch**, which provides fully managed batch processing at any scale. Now, instead of asking its clients to invest in CPU cores, Numerix can offer access to an environment that is not limited by the amount of hardware on hand. Using AWS, the Numerix team can run calculations that used to take a month in under 40 minutes, which is near real time for trade and risk management. Although the company adopted a lift-and-shift approach in the early stages of the migration, the full migration to a serverless mode was a key milestone.

Read the full story ›

numerix

"Our clients are using our risk analytics to avoid billion-dollar losses. The introduction of near-real-time analytics with the virtually limitless scalability of AWS has been a real game changer."

Jim Jockle, CMO, Numerix

Carro Group cuts infrastructure costs in half with AWS

The challenge:

Carro Group, specializing in the pre-owned car marketplace, was looking to maintain its lean DevOps and senior engineering support team after acquiring another used-car marketplace, Jualo. Already relying on AWS for scalable infrastructure solutions, it realized it could use **AWS Managed Services** (AMS) to offload the operations portion of DevOps, allowing its engineers to refocus their time on development.

AWS solution:

Carro began working with **Cloud Comrade**, an **AWS Premier Consulting Partner**, to migrate Jualo to AWS. Since migrating 40 Jualo servers to AWS, its availability levels have increased to consistently meet service-level agreements (SLAs). The team expects that Jualo will continue to average 99.99 percent uptime, even when traffic to the site increases. It has also benefited from enterprise-grade services with high levels of security and compliance. Cost-optimization sessions with AWS Certified Solutions Architects have helped Carro reduce its Jualo infrastructure costs by 50 percent since the migration.

Read the full story ›

CARRO

"With AMS, we don't have to conduct cost optimization exercises within the engineering team. AWS offers its global expertise to speed up that optimization process, so our engineers aren't bogged down."

Kelvin Chng, Co-Founder, Carro Group

Zego migrates 60 TB of data to AWS on time and under budget

The challenge:

Zego, a short-term insurance provider for private-hire and delivery drivers and couriers, acquired driving telematics company Drivit. Drivit monitors drivers' performance constantly to assess safety, collecting 50 data points every minute, including driving speed, acceleration rates, and braking. To access this huge quantity of valuable information, it required the rapid and secure migration from another cloud provider to AWS.

AWS solution:

The team used **AWS Database Migration Service** (AWS DMS) and **CLOUDBASIX for RDS SQL Server** to migrate five Microsoft SQL Server and PostgreSQL databases to AWS. It also moved tens of millions of files (60 terabytes of data) into **Amazon Simple Storage Service** (Amazon S3), an object storage service, so that the data could be classified. The migration went smoothly, finished within the tight nine-month timeline, and came in under budget. Since unifying Drivit's systems with its own on AWS, Zego's infrastructure is more reliable and agile while supporting future innovation.

Read the full story ›

ZEGO

"Using AWS, we have everything we need to push forward and stay ahead in the fast-moving insurance business."

Bart Swedrowski, Director of Systems Engineering, Zego

AgriDigital reduces software deployment time by 50% with AWS

The challenge:

To reduce risk to global agriculture supply chains and avoid even a few minutes of downtime, AgriDigital provides a commodity management platform to its customers, including farmers harvesting crops to truck drivers who rely on precise delivery schedules to get those crops to market. As the company entered the US market and ramped up business in Australia, it needed greater reliability and easier scalability.

AWS solution:

The AgriDigital team began by leveraging the support of an **AWS Advanced Consulting Partner**—the Brisbane-based Itoc—from the **AWS Partner Network**. Working with Itoc, AgriDigital chose to migrate its production environment to the high-performance, platform-agnostic .NET Core on AWS—liberating its team to move from Windows to Linux. Next, Itoc migrated AgriDigital's database environment from Microsoft SQL Server to **Amazon Aurora PostgreSQL** and **Amazon DynamoDB**. AgriDigital is continuing to modernize its application environment while growing its business—on a foundation of AWS.

Read the full story ›

AgriDigital

"We don't have the downtime issues we had previously. We can deliver a more reliable application by being on AWS, so our supply chain customers can operate with much more confidence that they will deliver products and get paid on time."

Dominik Moreitz, Head of Engineering & DevOps Lead, AgriDigital

KOHO migrates data warehouse to AWS for near real-time analytics

The challenge:

To keep offering a variety of consumer services and innovating on behalf of its customers, KOHO Financial needed a more cost-effective data warehouse solution—one that could provide a secure, efficient, and scalable foundation. The company saw the benefits of migrating its data warehouse to AWS, including the availability of near real-time data analytics, simplified data management processes, reduced costs, and unfettered access to AWS services—all unavailable with its former data warehousing solution.

AWS solution:

To establish a secure, scalable, and efficient foundation for its data architecture, KOHO migrated from its legacy solution to **Amazon Redshift**, a service that provides fast, easy, and secure cloud data warehousing at scale. KOHO also decided to build its Instant Pay service using AWS services—in particular, **Amazon Aurora**, a MySQL- and PostgreSQL-compatible relational database built for the cloud. By the end of 2021, as many as 1,100 users had signed up for Instant Pay, surpassing expectations. The company also anticipates significant cost savings once the data migration is complete.

Read the full story ›

aws startups

KOHO

"Using AWS, we can spend the vast majority of our time helping our users and advancing the business instead of on scaling the infrastructure."

Jonathan Klein, CTO, KOHO

Next steps

Take advantage of these AWS migration startup resources:

- Not an AWS customer yet? Create an **account**.
- Already an AWS customer? Join **AWS Activate** for access to free tools, resources, content, and expert support to accelerate your startup at every stage.
- Access our **helpful primer** on the roles of your AWS account team members.
- Explore **AWS Trusted Advisor** for architectural recommendations that can help your teams follow AWS best practices.
- Connect with an **AWS Partner** about your migration or other AWS projects.
- Explore your potential costs with the **AWS Pricing Calculator**.
- Determine your startup's eligibility for **AWS migration programs**.
- Learn about opening a **support case**.
- Considering on-premises-to-cloud migration? Access the **Migration Evaluator**.

Ready to migrate?

Contact us ›